BHAVANA CK
1BM20CS403
CSE-4A

Program 8:

Consider the following database of student enrollment in courses & books adopted for each course.
STUDENT (regno: string, name: string, major: string, bdate:date)
COURSE (course #:int, cname:string, dept:string)
ENROLL (regno:string, course#:int, sem:int, marks:int)
BOOK _ ADOPTION (course# :int, sem:int, book-ISBN:int)
TEXT (book-ISBN:int, book-title:string, publisher:string, author:string)

i. Create the above tables by properly specifying the primary keys and the foreign keys.
ii. Enter at least five tuples for each relation.
iii. Demonstrate how you add a new text book to the database and make this book be adopted by some department.
iv. Produce a list of text books (include Course #, Book-ISBN, Book-title) in the alphabetical order for courses offered by the 'CS' department that use more than two books.
v. List any department that has all its adopted books published by a specific publisher.
vi. Generate suitable reports.
vii. Create suitable front end for querying and displaying the results.

```
CREATE DATABASE COLLEGE;
USE COLLEGE;

CREATE TABLE student(
        regno VARCHAR(15),
        sname VARCHAR(20),
        major VARCHAR(20),
        bdate DATE,
        PRIMARY KEY (regno)
        );

CREATE TABLE course(
        courseno INT,
        cname VARCHAR(20),
        dept VARCHAR(20),
        PRIMARY KEY (courseno)
        );

CREATE TABLE enroll(
        regno VARCHAR(15),
        courseno INT,
        sem INT(3),
        marks INT(4),
        PRIMARY KEY (regno,courseno),
        FOREIGN KEY (regno) REFERENCES student
(regno),
        FOREIGN KEY (courseno) REFERENCES course
(courseno)
        );
```

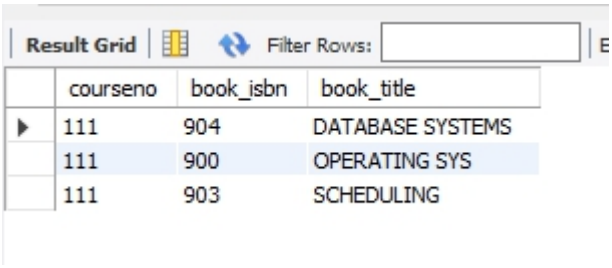
```
CREATE TABLE text(
        book_isbn INT(5),
        book_title VARCHAR(20),
        publisher VARCHAR(20),
        author VARCHAR(20),
        PRIMARY KEY (book_isbn)
        );

CREATE TABLE book_adoption(
        courseno INT,
        sem INT(3),
        book_isbn INT(5),
        PRIMARY KEY (courseno,book_isbn),
        FOREIGN KEY (courseno) REFERENCES course
(courseno),
        FOREIGN KEY (book_isbn) REFERENCES
text(book_isbn)
        );



INSERT INTO student
  VALUES('1pe11cs002','b','sr','19930924'),
        ('1pe11cs003','c','sr','19931127'),
        ('1pe11cs004','d','sr','19930413'),
        ('1pe11cs005','e','jr','19940824');

  INSERT INTO student
  VALUES('1pe11cs001','a','jr','19930922');
select * from student;
```

```
INSERT INTO course
  VALUES (111,'OS','CSE'),
              (112,'EC','CSE'),
              (113,'SS','ISE'),
              (114,'DBMS','CSE'),
              (115,'SIGNALS','ECE');
select * from course;


INSERT INTO text
  VALUES (10,'DATABASE
  SYSTEMS','PEARSON','SCHIELD'),
        (900,'OPERATING SYS','PEARSON','LELAND'),
        (901,'CIRCUITS','HALL INDIA','BOB'),
        (902,'SYSTEM SOFTWARE','PETERSON','JACOB'),
        (903,'SCHEDULING','PEARSON','PATIL'),
        (904,'DATABASE SYSTEMS','PEARSON','JACOB'),
        (905,'DATABASE MANAGER','PEARSON','BOB'),
        (906,'SIGNALS','HALL INDIA','SUMIT');
select * from text;

INSERT INTO enroll
  VALUES ('1pe11cs001',115,3,100),
        ('1pe11cs002',114,5,100),
        ('1pe11cs003',113,5,100),
        ('1pe11cs004',111,5,100),
        ('1pe11cs005',112,3,100);
select * from enroll;
```

```
INSERT INTO book_adoption
  VALUES(111,5,900),
(111,5,903),
(111,5,904),
(112,3,901),
(113,3,10),
(114,5,905),
(113,5,902),
(115,3,906);

select * from book_adoption;
```

------ Produce a list of text books (include Course #, Book-ISBN, Book-title) in the alphabetical order for courses offered by the 'CS' department that use more than two books.

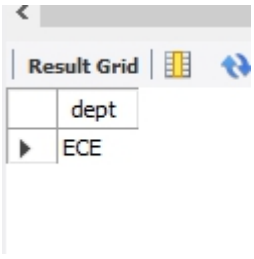
```
SELECT c.courseno,t.book_isbn,t.book_title
FROM course c,book_adoption ba,text t
WHERE c.courseno=ba.courseno
AND ba.book_isbn=t.book_isbn
AND c.dept='CSE'
AND 2<(
SELECT COUNT(book_isbn)
FROM book_adoption b
WHERE c.courseno=b.courseno)
ORDER BY t.book_title;
```



courseno	book_isbn	book_title
111	904	DATABASE SYSTEMS
111	900	OPERATING SYS
111	903	SCHEDULING

------ List any department that has all its adopted books published by a specific publisher.

```
SELECT DISTINCT c.dept
FROM course c
WHERE c.dept IN
        ( SELECT c.dept
        FROM course c,book_adoption b,text t
        WHERE c.courseno=b.courseno
        AND t.book_isbn=b.book_isbn
        AND t.publisher='HALL INDIA')
        AND c.dept NOT IN
        (SELECT c.dept
        FROM course c,book_adoption b,text t
        WHERE c.courseno=b.courseno
        AND t.book_isbn=b.book_isbn
        AND t.publisher != 'HALL INDIA');
```



dept
ECE